CLAIMS

What is claimed:

1. A semiconductor substrate processing system comprising:

a de-gas unit to separate a first flowing semiconductor processing fluid into second and third semiconductor wafer processing fluids;

a liquid trap connected to the de-gas unit to separate the second wafer processing fluid into a gas and a liquid and catch the liquid; and

a vacuum supply connected to the liquid trap to draw the third wafer processing fluid into the liquid trap and further draw the gas out of the liquid trap.

2. The semiconductor substrate processing system of claim 1, wherein the vacuum supply only draws the gas out of the liquid trap.

3. The semiconductor substrate processing system of claim 2, wherein the gas contains substantially no liquid.

4. The semiconductor substrate processing system of claim 3, further comprising a valve connected to the liquid trap to drain any liquid within the liquid trap when the valve is open.

5. The semiconductor substrate processing system of claim 4, wherein the liquid trap further comprises a first opening, a second opening, and a trap chamber therein interconnecting the first and second openings, the second semiconductor processing fluid flowing into the first opening and the gas flowing out of the second opening.

6. The semiconductor substrate processing system of claim 5, wherein the first and second openings of the liquid trap are at an upper end thereof, the liquid falling to a bottom of the chamber.

7 The semiconductor substrate processing system of claim 6, further comprising a liquid supply to supply the first semiconductor processing fluid to the de-gas unit.

8. The semiconductor substrate processing system of claim 7, wherein the first semiconductor processing fluid is substantially a liquid with gaseous particles mixed therein.

9. The semiconductor substrate processing system of claim 8, further comprising a pressurized gas supply connected to the liquid supply to pressurize the liquid such that the liquid flows into the de-gas unit.

10. The semiconductor substrate processing system of claim 9, further comprising a semiconductor substrate processing apparatus having a dispense head, the dispense head being connected to the de-gas unit to dispense the third semiconductor processing fluid onto a semiconductor substrate.

11. The semiconductor substrate processing system of claim 10, wherein the first semiconductor includes photoresist developer solvent.

12. A semiconductor substrate processing system comprising:

a de-gas unit to separate a first flowing semiconductor processing fluid into second and third wafer processing fluids, the second wafer processing fluid including gaseous and liquid particles;

a liquid trap connected to the de-gas unit to catch the liquid particles of the second wafer processing system; and

a vacuum supply connected to the liquid trap to draw the second wafer processing fluid into the liquid trap and further draw the gaseous particles out of the liquid trap.

13. The semiconductor substrate processing system of claim 12, wherein the vacuum supply only draws the gas out of the liquid trap.

14. The semiconductor substrate processing system of claim 13, wherein the gas contains substantially no liquid.

15. The semiconductor substrate processing system of claim 14, further comprising a valve connected to the liquid trap to drain any liquid within the liquid trap when the valve is open.

16. The semiconductor substrate processing system of claim 15, wherein the liquid trap further comprises a first opening, a second opening, and a trap chamber therein interconnecting the first and second openings, the second semiconductor processing fluid flowing into the first opening and the gas flowing out of the second opening.

17. The semiconductor substrate processing system of claim 16, wherein the first and second openings of the liquid trap are at an upper end thereof, the liquid falling to a bottom of the chamber.

18. The semiconductor substrate processing system of claim 17, further comprising a liquid supply to supply the first semiconductor processing fluid to the de-gas unit.

19. The semiconductor substrate processing system of claim 18, wherein the first semiconductor processing fluid is substantially a liquid with gaseous particles mixed therein.

20. The semiconductor substrate processing system of claim 19, further comprising a pressurized gas supply connected to the liquid supply to pressurize the liquid such that the liquid flows into the de-gas unit.

21. The semiconductor substrate processing system of claim 20, further comprising a semiconductor substrate processing apparatus having a dispense head, the dispense head being connected to the de-gas unit to dispense the third semiconductor processing fluid onto a semiconductor substrate.

22. The semiconductor substrate processing system of claim 21, wherein the first semiconductor processing fluid includes photoresist developer solvent.

23. A semiconductor substrate processing system comprising:

a de-gas unit having an inlet, at least one outlet, and a de-gassing chamber therein interconnecting the inlet and the at least one outlet, a first semiconductor processing fluid flowing into the inlet and being separated into a second semiconductor processing fluid and a third semiconductor processing fluid

within the de-gassing chamber, the second semiconductor processing fluid flowing out through the at least one outlet;

a liquid trap having a first opening, a second opening, and a chamber therein interconnecting the first and second openings, the first opening being connected to the at least one outlet of the de-gas unit; and

a pump having a low pressure side and a high pressure side, the low pressure side connected to the second opening of the liquid trap causing the third semiconductor processing fluid to flow into the first opening of the liquid trap, the liquid trap shaped such that the second semiconductor processing fluid is separated into a liquid and a gas, the liquid being caught in the chamber of the liquid trap and the gas flowing out of the second opening into the low pressure side of the pump.

24. The semiconductor substrate processing system of claim 23, wherein the vacuum supply only draws the gas out of the liquid trap.

25. The semiconductor substrate processing system of claim 24, wherein the gas contains substantially no liquid.

26. The semiconductor substrate processing system of claim 25, further comprising a valve connected to the liquid trap to drain any liquid within the liquid trap when the valve is open.

27. The semiconductor substrate processing system of claim 26, further comprising a semiconductor substrate processing apparatus having a dispense head, the dispense head being connected to the de-gas unit to dispense the third semiconductor processing fluid onto a semiconductor substrate.

28. A semiconductor substrate processing system comprising:

a semiconductor substrate processing apparatus having a dispense head;

a liquid supply containing a first semiconductor processing fluid;

a supply line interconnecting the dispense head and the liquid supply to flow the first semiconductor processing fluid from the liquid supply to the dispense head;

a de-gas unit connected to the supply line between the liquid supply and the dispense head to separate the first semiconductor processing fluid into second and third semiconductor processing fluids, the second semiconductor processing fluid including gaseous and liquid particles, the third semiconductor processing fluid flowing into the dispense head on the semiconductor substrate processing apparatus;

a liquid trap connected to the de-gas unit to catch the liquid particles of the second semiconductor processing fluid; and

a vacuum supply connected to the liquid trap to draw the third wafer processing fluid into the liquid trap and further draw the gaseous particles of the second semiconductor processing fluid out of the liquid trap.

29. A method comprising:

separating a first semiconductor processing fluid into second and third semiconductor processing fluids, the third semiconductor processing fluid being substantially a liquid; and

separating the second semiconductor processing fluid into a gas and a liquid.

30. The method of claim 29, further comprising dispensing the third semiconductor processing fluid onto a semiconductor substrate.

31. The method of claim 30, further comprising mixing the gas with the liquid to form the first semiconductor processing fluid.

32. A method comprising:

mixing a pressurized gas with a liquid to form a first semiconductor processing fluid, the first semiconductor processing fluid flowing into a de-gas unit;

separating the first semiconductor processing fluid into second and third semiconductor processing fluids within the de-gas unit, the second semiconductor processing fluid having gaseous and liquid particles and flowing into a liquid trap, the third semiconductor processing fluid being substantially a liquid and flowing into a semiconductor substrate processing apparatus;

trapping the liquid particles of the second semiconductor processing in the liquid trap;

flowing the gaseous through the liquid trap into a vacuum supply; and

dispensing the third semiconductor fluid onto a semiconductor substrate.